2,173,087

2,173,088

2,667,174

3,046,998

3,091,244

3,237,753

3,450,311

2,643,768 6/1953

2,701,570 2/1955 2,851,146 9/1958

2,988,213 6/1961

3,043,315 7/1962

3,116,238 12/1963

3,360,125 12/1967

3,362,414 1/1968

3,367,342 2/1968

3,386,773 6/1968

3,409,025 11/1968

3,460,869 8/1969

3,513,858 5/1970

9/1939

9/1939

1/1954

7/1962

5/1963

3/1966

6/1969

3,514,159 5/1970 Labbe

Eissmann 209/135

Eissmann 131/312

Sherrill 198/438 X

Davis et al. 209/21

Verhappen 131/312

Mortimer 131/312

Molins et al. 131/84.3

Van Etten 209/250

Allen et al. 198/689.1 OR

Horsey 209/12

Wochnowski 131/312

Lewis 131/311

Ballard, Jr. 406/16 X

Wochnowski 131/303 X

Bonneric 198/524 X

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[45] Date of Patent:

Jul. 25, 1989

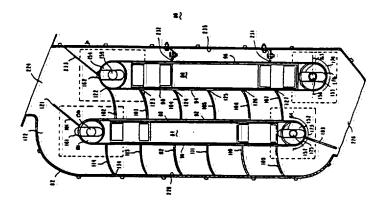
[54]	AIRLOCK HAVING FLAPS IN CONTINUOUS FEED OF MATERIAL CARRIED BY A GAS STREAM WHILE OBSTRUCTING FREE			3,608,716	9/1971	Rowell et al 209/139.1.	
المرآ				3.655.043	4/1972	Wochnowski 209/138:	
				3,665,932	5/1972	Goldbach 131/280	
					7/1974	Labbe 131/110 N	
	FLOW OF GAS		S	3,881,590	5/1975	Hartmann 198/626	
[75]	Invento	r Wi	lliam R. Sweeney, Richmond, Va.	3,989,309	11/1976	Preston 406/70	
[ho]				3,991,772	11/1976	Smith, Jr	
[73]	Assigne	e: Phi	lip Morris Incorporated, New	4,009,912	3/1977	Mraz 406/144	
•		Yo	rk, N.Y.	4,024,878	5/1977	Labbe 131/84 B	
			146	4,135,615	1/1979	Brackmann et al 198/371	
[21]	Appi. N	10.: 133	,145	4,166,027	8/1979	Smith 209/139	
[22]	Filed:	De	±. 18, 1987	4,223,685	9/1980	Labbe 131/109	
[1			-	4,259,032	3/1981	Kuhner 406/62	
[51]				4,264,238	4/1981	Leckband et al 406/62	
[52]				4,286,910	9/1981	Conrad 414/221	
				4,308.876	1/1982	Rothchild 131/293	
				4,408,619	10/1983	Perkins 131/108	
[58]	Field of	406/62, 63, 64, 67,	4,446,876	5/1984			
[50]	406/72, 74, 80, 81, 82, 51, 52, 65, 68, 77, 79;			4,474,511	10/1984	Labbe 406/70	
	131/109.1, 84.3, 287; 414/217, 221; 198/607,			4,475,562	10/1984	Thatcher et al 131/110	
	604, 626, 698, 690.2, 689.1, 428, 438, 494			4,507,876	4/1985		
		004, 02	0, 090, 090.2, 005.1, 420; 430, 434	4,557,278	12/1985	Brackmann et al 131/109.1.	
[56]		References Cited					
[+ -]					FOREIGN PATENT DOCUMENTS		
	U.S. PATENT DOCUMENTS			490737	171980	Fed. Rep. of Germany	
	540 (155	5/1895	Duia et al 406/81 X	548111		Fed. Rep. of Germany	
			Berold	591577		Fed. Rep. of Germany	
	1.675.090	6/1928	Burns et al. 131/315	US79/00705	9/1979	•	
	2.003.141	5/1935	Dorfan 209/150		11/1923		
	2.163.833		Eissmann	200330	1117, 1723	Office rengeon	
	2,200,000	0, 1737				to the Boston to	

Primary Examiner—Joseph F. Peters, Jr.. Assistant Examiner—Gregory R. Poindexter. Attorney, Agent, or Firm—Jeffrey H. Ingerman

[57] ABSTRACT

An airlock for the continuously feeding through of a material while obstructing the free flow of a gas is provided. The airlock comprises a first continuous belt having a plurality of nonporous flaps: projecting out from it. Each flap has a free edge located outwardly from the belt. A second belt runs parallel to the first and has elements to seal against the free edges of the flaps of the first belt. A motor moves the belts so that their transport sides move together. Particulates are transported in the chambers formed by belts and flaps while the flow of air between and past the belts is inhibited.

10 Claims, 6 Drawing Sheets



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